



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

material—of much instructive value—without sufficient attention to the development of successive geographic causes that lead to definite results. Relationships are frequently stated as bare facts but not proven, and the average high-school student demands proof. For this reason it seems to be better adapted “to learn” for recitation work than to develop reasoning. It is doubtful if any serious thinking on the part of the student will be induced by it.

Three hundred well-selected illustrations supplement the text. The book as a whole is an excellent contribution to the advancement of the new geography.

Physiography for High Schools. By A. L. AREY, F. L. BRYANT, W. W. CLENDENIN, and W. T. MORREY. New York: D. C. Heath & Co., 1911. Pp. 450.

In the *Physiography for High Schools* the authors have endeavored to select such material from the related sciences as seemed best adapted for high-school use. In making such selections they have kept in mind the 90 per cent of high-school students who complete their education in the secondary school. They hold that the student “should know of the earth as a whole, its relation to the other heavenly bodies, and the influence of its size, shape, and motions upon our daily life.” This idea has led to the use of much astronomical, meteorological, geological, biological, and historical material. The text is divided into four parts, as follows: “The Earth as a Planet,” “The Air,” “The Sea,” “The Land.” An attempt is made throughout the book to show the relationship of climate and other physical environment upon man and his activities. It is to be regretted, however, that more emphasis has not been placed upon this phase of the subject. For this reason the book must be considered as a modified type of the old and not representative of the new geography. Nearly 250 illustrations consisting of pictures, maps, and diagrams supplement the text. At the end of each chapter are sets of questions designed to stimulate thought on the part of the student, as no direct answer to them is to be found in the text.

GEORGE J. MILLER

UNIVERSITY HIGH SCHOOL
CHICAGO

A Practical Course in Botany. By E. F. ANDREWS, with Editorial Revision by FRANCIS E. LLOYD. New York: American Book Co., 1912. Pp. ix+374. \$1.25.

The aim of the makers of this manual has been to provide a course that should meet the requirements of a year's work for college entrance, and at the same time to relate the work to “the business of life” by introducing some economic plants, and by some attention to the elements of agriculture, forestry, pathology, and hygiene.

The work starts with the morphology and physiology of the seed, continues with germination, the morphology and physiology of the root, stem, leaf, flower, and fruit, gives a chapter to the response of plants to surroundings, and ends with a chapter on cryptogams. The last chapter covers 65 pages, and the preceding part, commonly known as *general botany*, 295 pages. A feature of the book is the "Practical Questions" and "Field Work" which close each chapter.

The book is so written that recitations and a considerable part of the laboratory and fieldwork of the pupil can be taken directly from it, and the more abbreviated directions are detailed enough and suggestive enough for the trained teacher to supply various lines of work to the pupils in the direction of pure botany, or in the directions that are so much followed in the present day—agricultural botany, hygiene, and "civic biology."

That the book is excellent in its general make-up, in its method of presentation, in most of its illustrations, and in its suggestiveness for fieldwork and independent observations on the part of the pupil there can be no doubt; also its scope and selection of material and of experiments are generally good. But it is to be regretted that so many errors in physiology have found their way into the book. Photosynthesis is said to result mainly in the formation of starch. Diffusion and osmosis are not clearly set forth. The result of the action of the clinostat and the centrifuge are confused. Geotropism is variously defined as a *tendency*, a *force*, and a *function*. All that is said on contact stimulus and response is wrong. The pupil is told that the twining of a vine is due to retardation of growth on one side because of contact. Several errors are fundamental and therefore capable of much harm to the young teacher not firmly grounded in science, and especially to the pupil, who is supposed by these studies to be inducted into the truth.

FREDERICK C. NEWCOMBE

UNIVERSITY OF MICHIGAN

Soil Fertility and Permanent Agriculture. By CYRIL G. HOPKINS.

Boston: Ginn & Co., 1910. Pp. xxiii+653. Illustrated. \$2.75.

This book, which appeared from the press some months ago, is a profound treatise on the fundamentals of the permanent maintenance of soils. Past practices in careless farming, which have sometimes been called "soil mining," have depleted soils so seriously that the attention of all students of agriculture must be given more intently to the practices which will keep up the fertility of the soil indefinitely. The book comes at a time in the development of agricultural science when there is great need for such study. The author's standing in the agricultural world, and his long experience as a teacher, makes him a most suitable author of such a book. Agricultural college students, as well as high school students, pursuing soil studies, will find it a most valuable addition to the few volumes now available, as related to soil maintenance.